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A SHORT ACCOUNT OF THE EYE AND NATURE of VISION.

Chiefly designed to Illustrate the

USE and ADVANTAGE OF SPECTACLES.

WHEREIN

Is laid down Rules for chusing GLASSES proper for remedying all the different Defects of SIGHT.

AS ALSO

Some REASONS for preferring a particular kind of GLASS, fitter than any other made Use of for that Purpose.

MANCHES
MEDIC
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The SECOND EDITION.

By *JAMES AYSCOUGH*, Optician.

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MANCHESTER MEDICAL SOCIETY

A SHORT

ACCOUNT

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AND

NATURE of VISION.

THE Deſign of the following Sheets being chiefly intended to illuſtrate the Uſe of Spectacles for helping defective Eyes, and to inſtruct People labouring under theſe Diſadvantages, how to judge of the Nature of their Infirmity, and learn them, how to apply a proper Remedy. I ſhall therefore endeavour to write ſo, as to be underſtood by

People of all Capacities, and ſhun all Terms of Art as much as poſſible.

As to the Nature of Viſion, I ſhall not attempt to give any Account, how the Rays of Light proceeding from Objects, and conveyed through the Organ of the Eye, are propagated into the Brain; nor pretend to ſay what Membrane is the Seat of that Senſation, nor how theſe Senſations are perceived; that being properly an Inquiry into the Faculties of the Soul, a Work too mighty for Man; which has baffled the Reſearches of the moſt acute; ſeeing all their Endeavours to explain, have ſerved to puzzle more than convince, and their Concluſions at laſt no better than bare Conjectures, proves, *That the Works of the Almighty are wonderful, and his Ways paſt finding out.*

Neither ſhall I attempt to give an anatomical Account of the Eye, as to the particular Muſcles, the different Coats and Humours, that compoſe that wonderful Machine; but only conſidering it, as an Optical Inſtrument, compare it to one of human Invention, and thence propoſe to illuſtrate how the Images of external Objects are painted on the *Retina* or back Part of it, and ſhow how any Imperfections ariſing from a bad Form, are to be helped by the means of proper Glaſſes.

When

When we look on the Eye as an Optical Inſtrument; whether we conſider its external or internal Parts, its Motion, Size, or Situation, it is all Admiration! Look on the Eyelids, how admirably they are contrived for the Defence, as well as the Eaſe of that glorious Machine: Serving as a Screen to ſhut out the Light, while the Soul lies aſleep, without which it muſt have been always kept on the Bend, and uſeleſs Images formed on the *Retina*, without producing any Senſation. How curiouſly their Edges are bound about with fine Cartilages, which ſerve to ſtrengthen, as well as enable them to ſhut the cloſer, and theſe again fortified with a row of ſtiff Hairs, judiciouſly turned different Ways, to warn the Approach of Dangers, and alſo by their Interpoſition (like a dark Glaſs) moderate too exceſſive Light, while they admit as much as is neceſſary to ſhow the Object diſtinctly.

If we examine the Coats and Humours, we ſhall find them ſtill as wonderful in their Contexture, as admirably placed, and as curiouſly adapted to the Place and Buſineſs they are to perform: The delicate Tranſparency of the *Cornea* ſo formed, as to make the Light fall properly on the Cryſtalline, ſo as to be collected by it on the *Retina*. A Lens

no leſs curious in its Formation, than wonderful in its conſtituent Parts; which as Mr. *Leowenhook* has made appear, conſiſts of a vaſt Number of thin Plates and Scales lying one upon another, and every one of theſe made up of one ſingle Fibre or fineſt Thread, wound in a moſt ſtupendous Manner, this Way and that Way, ſo as to run ſeveral Courſes, and meet in as many Centers, and yet not interfere or croſs one another in any one Place. The Aqueous and vitreous Humours furniſh equal Aſtoniſhment, tending to miniſter in a like wonderful manner to the Perfection of this noble Machine, by keeping the whole extended to its proper Form, as well as aſſiſting it in its refractive Power; at the ſame Time they eaſily yield to a Change of its Figure, and the Motion of the Cryſtalline backward and forward, in adapting itſelf to ſee at different Diſtances.

The Proviſion that the admirable Artiſt has made for the Preſervation of this perfectly well formed Organ, is every where proportioned to the Uſe and Excellency of it, and the inward Texture delicate and tender, in Proportion to their tender and curious Purpoſes. How judiciouſly is the Inſide darkened that it may not reflect or diſturb the Rays, and how wonderful does the Aperture of the *Iris* adjuſt itſelf to every diffe-

different degree of Light? When we conſider, that this Inſtrument performs all theſe Things of itſelf, from the Nature of its Formation, without any Direction or Aſſiſtance from the Mind? How muſt we be ſtruck with Aſtoniſhment and neceſſarily convinced, that ſuch a Superſtructure can be no other than the Work of an infinitely ſkilful Workman, where every Circumſtance conſpires to a Demonſtration, that the nobleſt Works of human Invention, are no more to be compared to the ſmalleſt Appendage of this moſt curious Minutia, than Divine Perfection, to finite Ignorance and Impotence.

Such is the Organ of the firſt, the nobleſt, the moſt elegant of all our Senſes; it is on the *Retina*, that is painted all the Glories of the Heavens, and Beauties of this lower World; it is by Means of this Organ, we contemplate the ſtupendous Works of its Creator, every where extended round us in the Firmament; and through it we admire the Immenſity of his Skill in the Formation of the minuteſt Thing that exiſts. From this Senſe we receive the greateſt Entertainment, the higheſt Delight; and without it moſt of our other Faculties would in a great Meaſure be rendered uſeleſs. An Animal endued with Life and Motion, without Sight, how could he judge to advance

vance this, or retire that Way, to enjoy any uſeful, agreeable, or pleaſant Object? Or ſhun a nauſeous, or diſagreeable Stumbling-block that lay in his Way? How could the Race of Men ſearch after Food, plough the Depth in queſt of Knowledge, Riches, or even Luxury: Or, in a State of Blindneſs, how could they ſhun Ten Thouſand Dangers, that always every where ſurround them?

The uſe of this Senſe, the Benefit of which we experience every Moment, need be no further inſiſted on, ſince the Loſs of it is always accounted amongſt the greateſt of our Misfortunes, and as Ignorance is reckoned the Blindneſs of the Soul, ſo utter Darkneſs in a figurative Senſe, is declared to be the Portion of thoſe who ſhall never ſee God. How thankful then ought thoſe to be, who enjoy in full Perfection this ineſtimable Bleſſing? And how much to be commiſerated they, who either from natural Defects, or Decays through Age or Diſeaſes, partake of ſome Degree of Blindneſs? An Attempt therefore of this kind will be eaſily excuſed, and candidly received by all thoſe who wiſh well to their Fellow-Creatures.

As

As I do not write this for the Inſtruction of Philoſophers, Anatomiſts, or Opticians, who may underſtand theſe Things better than I pretend to do; but for the general Uſe and Advantage of thoſe, who have not had the Opportunity from their Education to know the Laws of Refraction from the Rules of Opticks; it will therefore be neceſſary to premiſe ſome Things here.

The Rays of Light proceeding from any Luminous, or illuminated Body diverge, in all Directions in ſtraight Lines.

From the Rules of Opticks it is demonſtrated, that in Order to form an Image, theſe diverging Rays muſt be collected again into Points.

That the Rays of Light paſſing through any Medium and falling on any Diaphanous Body (as Glaſs, *&c.*) of a denſer Nature, are bent or crooked, and take another Direction, and *vice verſa*.

That Rays from any Body falling on Glaſs, *&c.* made into a globular or convex Form, (ſuch as a common magnifying Glaſs) are bent ſo as to meet in a Point behind it; which Point

Point is called its Focus, and at that Place there is always an Image formed.

Every Eye has a Focus, either in or beyond it, where the Images of all external Objects are formed, by its refracting power.

From what has been ſaid, the Nature of Viſion and Uſe of Spectales, will be moſt eaſily explained by the common Experiment of the dark Chamber, or as it is uſually called the *Camera Obſcura*; which is this. In the Room that is darkened, let a Hole be made in the Door or Window-Shutter, in which Hole place a Convex Lens (or common magnifying Glaſs) then holding a Sheet of white Paper within the Room, at a proper Diſtance from the Hole (which will be found by Trial) you will ſee on the Paper the Pictures of all external Objects, in their juſt Proportions and proper Colours, only they will be upſide down, as in Fig. I.

If the Paper remain in the ſame Place, and in the room of the aforeſaid Glaſs or Lens, one that is flatter be uſed, the Picture upon the white Paper will then be confuſed; but by placing a Convex Spectacle-Glaſs before the Lens of a due Convexity, the Image on the Paper will again be rendered diſtinct. If a more Convex Lens than the

the firſt be uſed, the Image on the Paper will again be confuſed; but may be rendered diſtinct, by placing in this Caſe a Concave Spectacle-Glaſs before the Lens.

The Reaſon of the indiſtinct Picture in theſe Caſes, is, when the flatter Glaſs is uſed, the Rays paſſing through it are not enough refracted (or bent) but would meet at Points beyond the Paper; and in the other Caſe are too much bent, ſo as to meet too ſoon, and ſhort of the Paper. The Paper being fixed, that Diſtance is not the proper Focus of any of theſe Lenſes; but the Image is rendered diſtinct, as in the Experiment, by the help of proper Glaſſes.

This Experiment repreſents the manner of Viſion by the Eye; for the *Cornea* or outſide Coat, being of a Convex Form, as *a b*, Fig. II. reſembles the Lens placed in the Hole in the Window-Shutter; and on the Concavity of the Bottom of the Eye *c d* is expanded a fine Membrane called the *Retina*, which reſembles the white Paper: On this Membrane the Pictures of all external Objects are formed. When the Pictures are formed diſtinct on the *Retina*, then the Objects appear clear and diſtinct; if the Pictures on the *Retina* are confuſed, then the Objects appear hazy and confuſed: This is con-

firmed by taking off from the bottom of the Eye the outward Coat called the *Dura Mater*, and applying a Piece of thin Paper in place of it, for we can then ſee Pictures of Object lively painted on it. And according as theſe Pictures are perfect or imperfect, the Objects are ſeen perfectly or imperfectly; but if the Eye be tinged with any Colour (as in the Diſeaſe of the Jaundice) ſo as to affect the Pictures in the Bottom of the Eye with that Colour, then all Objects appear of the ſame Teint.

From hence we may eaſily ſee the Uſe of Spectacles; for when the Eye is of a proper Convexity or Roundneſs, Rays from any external Objects falling upon it will be collected on the *Retina*, and form a diſtinct Image there, as is repreſented in Fig. II. But, if from the original Form, or through the Decay of the Humours by Diſeaſes, or old Age, the Eye be of too flat a Figure, the Rays will not be refracted enough, but bent ſo as to meet at a Point beyond the *Retina*, as in Fig. III. This Defect (as in the Experiment) is helped by the Interpoſition of a Spectacle-Glaſs *e f*, Fig. IV. which bends the Rays a little before they fall on the Eye, and giving it leſs to do, are then collected properly on the *Retina*; whereas without the Help of that Glaſs, they would have proceeded,

ceeded, as repreſented by the pricked Lines in the ſame Figure: And to have produced diſtinct Viſion, the *Retina* ſhould be removed as far back as where they meet.

When the Eye is too round, as in ſhort-ſighted People, the Rays are too much bent, and convene before they come to the Bottom of the Eye, as in Fig. V. The Plumpneſs of the Eye in this Caſe is rectified by a Concave Spectacle-Glaſs, *g*, *h*, Fig. VI. which bending the Rays a little outward, makes the Light fall on the Eye properly, for its refractive Power, ſo as to be collected in Points on the *Retina*, and form a diſtinct Picture there.

This in general is the Manner in which the Defects of the Eye are remedied by the Uſe of Glaſſes; but theſe Defects are neither the ſame in different Perſons of the ſame Age, nor in the ſame Perſons at different Ages; neither do they proceed from the ſame Cauſe; ſome being natural, ſome acquired, and many the Conſequence of Diſeaſe; but from whatſoever Cauſe they ariſe, if the Imperfection lies in the Shape, they can be rectified by proper Glaſſes, as has been ſhewn.

A bad Form may be acquired, by looking much, either at very remote, or too near

Objects: In the former Caſe we flatten the Eye a little, and in the latter we draw it up into a more Convex Form to ſee diſtinctly: In Time the Eye will acquire either Conformation, and retain a fixed Form, too flat or too globular for Objects at a moderate Diſtance.

This is confirmed every Day, in the Caſe of Engravers, Watchmakers, Chaſers, *&c.* who by frequently forcing their Eyes into too Convex a Figure in Order to ſee minute Objects, at laſt have their Eyes ſettled to that Configuration, and ſo become ſhort-ſighted, eſpecially if they are uſed to theſe Employments when young, while the Coats of the Eye are tender and pliable.

On the contrary, Sailors and Huſbandmen, by looking moſtly at diſtant Objects, are rarely or ever ſhort-ſighted, and ſoon want the Aſſiſtance of Convex-glaſſes; becauſe by adapting the Eye to ſee remote Objects, it fixes at laſt in a Shape too flat for near Diſtances.

From hence we may ſee, that the Defects of the Eye will likewiſe alter by Habit, and even that theſe Defects may be remedied by Habit; and according as People accuſtom themſelves to ſuch Habits, they may either increaſe or diminiſh theſe Defects. Age in general

general alters the Form of the Eye, making the Eyes of moſt People grow flatter; but the Form of the Eye may be likewiſe flattened, by uſing Glaſſes of too great magnifying Power, which will reduce the Eye to as flat a Figure, as either Old Age itſelf, or looking at diſtant Objects: On which Account no Perſon ſhould ever uſe Glaſſes, that magnify more than what is abſolutely neceſſary to remedy the Defect, for which they have Recourſe to that Help: For though they can ſee to read, by bringing the Paper nearer to the Eye, yet it muſt ſtrain it into ſuch a Figure, ſo as afterwards they can never ſee without ſuch Glaſſes. This I mention the rather, as many People think the chief Property of Spectacles, conſiſts in making the Object appear very big; which is a great Error, and of worſe Conſequence, than Glaſſes that do not magnify ſufficiently to ſupply the Purpoſe. Notwithſtanding what has been ſaid, purblind Perſons ſeldom find any conſiderable Alteration in their Eyes, and I have even obſerved, contrary to the general Rule, that they ſometimes grow rather more ſhort-ſighted.

Since therefore the Defects of the Eye, and the Glaſſes proper to remedy thoſe Defects vary ſo much, I ſhall now ſhew how People may judge when there is a Neceſſity to apply

apply to theſe Helps, and alſo lay down ſome Rules by which every one may chuſe, not only good Glaſſes in their Kind, but ſuch too, as are beſt ſuited to the Form and Shape of their own Eyes.

Every good Eye has one certain Diſtance (or nearly ſo) of ſeeing a common Size Print to read with eaſe; and when the Eye begins to grow ſo flat, as to require the Aſſiſtance of Spectacles, they will find themſelves obliged to hold a Book at a greater Diſtance; and they may obſerve alſo, when they read, write, or work any long Time, a Sort of Dizzineſs like a Cobweb will appear before their Eyes; and likewiſe if they read by Candlelight, they will find it neceſſary to hold the Paper behind it.

Theſe are the Signs of the want of Spectacles, and whenever this appears to be the Caſe, no Perſon ſhould be without them; for the endeavouring to ſee what they cannot without great Difficulty, ſtrains and weakens the Eye, and by this they may receive more Injury in a Month or two, than they would otherwiſe do in as many Years, with the Aſſiſtance of proper Glaſſes, which would not only aſſiſt the Eye, but render Viſion eaſy and pleaſant.

In

In Order therefore to make a proper Choice of Spectacles, that is, to judge what Glaſſes are of a due Degree of Convexity or Concavity, ſo as to aſſiſt the Eye properly for its refractive Power, hold a ſmall Print, at the Diſtance at which you was uſed to ſee diſtinctly when your Eyes were good, which with moſt People is about Ten or Twelve Inches, then chuſe a pair of Spectacles of ſuch a Degree of Convexity, as renders the Letters as plain as they uſed to appear before your Sight was defective; if you chuſe them too young, *i. e.* not Convex enough, they will ſcarce remedy the Defect; and you will not ſee diſtinctly unleſs the Print is ſo far off, that the Letter will appear rather too ſmall to be read. If you chuſe them too Old, *i. e.* too Convex, you will then be obliged to flatten the Eye to compenſate their over great Convexity, and thereby be in Danger of increaſing the Defect.

For ſhort-ſighted Perſons, the beſt Way is to look through a Concave Lens at ſome diſtant Object; and the leaſt Concave of all the Glaſſes, through which you can ſee diſtinctly, is the beſt.

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Theſe

Theſe Trials always ought to be made where you can have the greateſt Choice of Glaſſes; but thoſe who live in the Country, at too remote a Diſtance from that Conveniency, may be fitted by the following Method, *viz.* let the Perſon take a common Print, and move it to and from the Eye, till he ſees diſtinctly, then meaſure exactly that Diſtance, (from the Eye to the Paper) and by ſending an Account thereof to a proper Workman, they may be fitted to a ſufficient Degree of Exactneſs.

But, as in many curious Pieces of Workmanſhip, there is an abſolute Neceſſity of viewing the Object under a large Angle, in Order that the moſt minute Parts may be obſerved, in this Caſe, Glaſſes of a larger magnifying Power, than what is proper for common Purpoſes, muſt be uſed; and if the Work be brought nearer to the Eye, its Form will not be much altered; but the ſhorter Time theſe Objects are viewed the better, for Reaſons before given.

Now we have ſpoke of the Nature of the Diſeaſe, and the Remedy; we have pointed out the Symptoms, and directed how to apply the Medicine: But as in Phyſick, the Quantum muſt be proportioned to the Quality

lity of the Drug, and altered a ccording as it is good or bad of its kind, ſo here the Glaſſes may be very judiciouſly choſen, as to their Degree of magnifying Power, and ſtill they may be very bad Spectacles; for although they may aſſiſt the Eye in ſome Meaſure, as to its refractive Quality, yet they will inſenſibly hurt it in a greater Degree in ſeveral other Caſes; therefore we ſhall now proceed to ſpeak of the Properties of the Glaſſes themſelves, and detect whether the Fault lies in the Materials, or is owing to the Artiſt; and give ſuch Rules, as every Perſon may chuſe, examine, and judge for themſelves; which were formerly only known to Connoiſſeurs and Workmen.

In ſpeaking of the Imperfections, we ſhall have an Opportunity of obſerving the Properties of good Glaſſes, and point them out as we go along.

The Imperfections of Glaſſes, are either owing to the Artiſt, or the Materials they are made of: The Workmen often through Hurry, Careleſſneſs or Want of Skill, put them out of their Hands of an untrue Figure or very bad Poliſh, and yet in ſuch a Manner as not to be diſcovered, but by very good Judges, whereas good Glaſſes ought to

be very truly formed and as exquiſitely poliſhed.

The Errors that ariſe from the Materials are often owing to a vaſt Number of Veins in it; but particularly, to an offenſive glaring Light, occaſioned by the Colour of the Glaſs [commonly made Uſe of for that Purpoſe]; ſo we ſhall ſpeak to all theſe Points ſeparately, and firſt,

To examine the Figure, view any common Print through the Spectacles, holding the Glaſs at a good Diſtance from the Eye, and removing it gradually from the Paper, if the Glaſs be of a true Figure, the Print or Object will all appear confuſed at the ſame Time; but if falſe, it will appear diſtorted about the Edges of the Glaſs, while it remains diſtinct in the Middle. Thus if you view croſs Lines, which form ſmall Squares, as in Fig. VII. through a true-ground Glaſs, it will appear perfectly like the Original, only Bigger and Bigger as you gradually remove the Glaſs, till you come beyond its Focus, where all Parts will appear indiſtinct together. Whereas through a Glaſs not truly ground, the Squares in the Middle will appear with ſtreight Sides, but thoſe near the Edges, crooked, of different Bigneſs, and confuſed as in Fig. VIII.

To

To diſcover the Veins in Convex-glaſſes, place a Candle from you about the Diſtance of Five or Six Yards, then looking through the Glaſs, move it from the Eye, till you find it full of Light, and then will be ſeen every Vein and Speck in it. Theſe Veins always diſtort Objects; but Specks which are only opake Spots, intercept but an inconſiderable Part of the Light, doing no other Damage; at the ſame Time you will eaſily ſee if there be any Fault on the Poliſh.

As to the Colour, it has been found that the common white Glaſs gives an offenſive glaring Light, very prejudicial to the Eyes; and on that Account green and blue Glaſs has been adviſed, though they make every Object appear with their own Hue; for theſe Reaſons, that white Bodies in general, and all Objects ſtrongly illuminated, are more painful to look upon than Objects tinged with theſe Colours.

With what more Eaſe and Pleaſure do we view the azure Sky at the Dawn, or the green Fields in the Spring, than the Earth covered with Snow, and illuminated by the Noon-day Sun?

But Experience teaches us, the fineſt Theories are liable to Objections, and muſt never be fully admitted till confirmed by Practice; ſo Glaſſes of theſe Colours have been found ineffectual, excepting in Caſes, where the natural Defect of the Eye requires ſuch; or for Workmen looking on luminous Objects, to whom they are of very great Service, rendering thoſe Object eaſy to be viewed; but to others are very prejudicial, making the Objects too dark through the Deepneſs of the Tinge of the Glaſs, and even affecting the Eye in ſuch a Manner, that all Objects appear of the ſame Tinct for ſome Time after they are uſed.

Upon theſe Conſiderations, ſome Time ago I was induced to make Trial of a new kind of Glaſs and recommend it to the Publick, as being fitter for the Purpoſes of Spectacles than any other Sort whatſoever; on theſe Accounts, it is harder, freer from Veins, and being of a greeniſh Caſt, takes off the glaring Light ſo much complained of in the White, yet ſo tranſparent as not to be liable to the Objections ſo juſtly made to thoſe of deeper Colours.

That it is harder, is evident, from the Difficulty there is in working it; ſince Artificers can

can grind near double the Number of white Glaſs, that they can do of this Sort in the ſame Time: And as every one the leaſt converſant in Opticks, knows the greateſt Exactneſs in Figure is requiſite to make a good Object-glaſs in a long Teleſcope; ſo that this Sort makes excellent Glaſſes for that Purpoſe is now known by the Experience of all Workmen, while it is impoſſible to make a tolerable good one out of the white Glaſs.

It is likewiſe known, that a hard Body of a homogeneous Nature can be formed into a truer Figure, than one of a ſoft unequal Subſtance; where the ſofter Parts in forming or poliſhing, always works away faſter than the hard, and by that Means leaves an unequal Surface. Such a Subſtance can never anſwer in great Teleſcopes, when every Error in the Image formed by the Object-glaſs, are ſo greatly magnified by that next the Eye. From hence it appears, that the white Glaſs is not only of a ſofter Body, but of a more heterogeneous Nature, and at the ſame Time is a Proof of the Hardneſs and equal Solidity of the Kind recommended.

That it is freer from Veins, we are certain of from Examination, for in comparing any Number with the white Glaſſes as directed,

Page 19, you will find Ten in the White full of Veins to one of theſe; and likewiſe the Veins in this Glaſs are ſo ſmall in Compariſon of the other, that the Errors ariſing from them muſt be leſs in Proportion.

That theſe Spectacles muſt be dearer, will appear from the greater Charge ariſing from the working, as well as from the higher Price of the Materials; but, their being ſo much preferable in every Shape to the common Glaſs, which Experience and the univerſal Approbation they have met with ſufficiently confirms, makes them cheaper upon the whole, ſince the Difference of the Price is ſuch a Trifle in Compariſon to their ſuperior Qualifications.

Notwithſtanding the Oppoſition that was made to this Sort of Glaſs, ſome time ſince, by a few People of the Trade, yet ſome of the moſt violent of theſe Oppoſers are now ſo much convinced of the ſuperior Excellency of it, that they themſelves make Uſe of it for the ſame Purpoſes.

Even at that Time, ſome of them acknowledged the Properties of this Glaſs, though they oppoſed it in Publick (like the *Epheſian* Goldſmiths who raiſed a Clamour againſt

againſt Chriſtianity, leaſt it ſhould hurt the Craft, by deſtroying that lucrative Buſineſs of Shrine making) giving it as a Reaſon, that it would ſpoil the Sale of Spectacles made of *Rock Cryſtal* and *Brazil Pebbles*, which for ſome time had been much cried up for their extraordinary Virtues, while in reality, there is nothing to recommend them but their exorbitant Price, and the no ſmall Gain which they brought to the Craftſmen.

For though they are hard, and take a fine Poliſh, they have a glaring Whiteneſs, and a Grain like the Iſland Cryſtal, and like that too a double Refraction *; and as was obſerved before of the white Glaſs, it is impoſſible with theſe Subſtances to make Lenſes either for Teleſcopes or Microſcopes, and conſequently can never be good Spectacles, though their Faults may not be ſo eaſily diſcovered in ſo ſimple an Inſtrument.

Upon the whole, the Motives of recommending this Glaſs, was no other than being fully convinced of its Properties from the above Reaſons, nor was there any Pretence to an Invention, only happening to be the lucky Diſcoverer, I thought it my Duty to communicate it to the Publick. Neither is

* See Sir *Iſaac Newton's* Opticks, Book III. Quere 25.

it

it true, that this Glaſs was at all Times formerly uſed, and for the moſt ordinary Goods, as has been falſely inſinuated, ſeeing the Price would not anſwer for the Glaſſes, ſold by Pedlars and common Hawkers.

As the moſt beneficial Diſcoveries to human Life have often been the work of Chance, and though very few Philoſophical or Optical Inſtruments made of late, deſerve the Name of Invention, yet there are Numbers of them that may be greatly improved; and he who does his beſt Endeavours, and communicates them freely, is at leaſt Praiſe-worthy for his good Intentions, *eſpecially on ſuch a Subject:* So I ſhall conclude with the Words of Mr. *Molineux*, " Were there no further Uſe of *Dioptricks*, " than the Invention of *Spectacles* for the " Uſe of defective Eyes; whether they be " thoſe of *Old Men*, or thoſe of *Purblind* " *Men*; I ſhould think the Advantage that " Mankind receives thereby, inferior to no " other Benefit whatſoever, not abſolutely " requiſite to the Support of Life. For as " the Sight is the moſt noble and extenſive " of all our Senſes; and as we make the " moſt frequent and conſtant Uſe of our " Eyes in all the Actions and Concerns of " human Life; ſurely that Inſtrument that

" relieves

" relieves the Eyes when decayed, and ſup-
" plies their Defects, rendering them uſeful,
" when otherwiſe almoſt uſeleſs, muſtneeds,
" of all others, be eſteemed of the greateſt
" Advantage. In what a miſerable Condition
" do we count thoſe, in whom it hath pleaſed
" the *great Contriver of the Eyes and Sight*,
" to ſhut theſe two little Windows of the
" Soul? And we may imagine, that they, in
" whom theſe Lights are but *partly* obſcur-
" ed, do in ſome Meaſure, partake of the
" Miſeries of the Blind. How melancholy
" is the *Condition* of him, who only enjoys
" the Sight of what is immediately about
" him? With what Diſadvantage is he engag-
" ed in moſt of the Concerns of human Life?
" Reading is to him troubleſeme, War more
" than ordinary dangerous, Trade and Com-
" merce toilſome and unpleaſant: And ſo
" likewiſe, on the other Hand; How forlorn
" would the latter Part of moſt Men's Lives
" prove, unleſs Spectacles were at Hand to
" help our Eyes, and a little formed Piece
" of Glaſs ſupplied the Defects of Nature?
" The curious Mechanic, engaged in any
" minute Works, could no longer follow his
" Trade than till the Fiftieth or Sixtieth
" Year of his Age: The Scholar no longer
" converſe with his Books, or with an ab-
" ſent Friend in a Letter. All after would

" be melancholy Idleneſs, or he muſt con-
" tent himſelf to uſe another Man's Eyes
" for every Line. Thus forlorn was the
" State of moſt *Old Men*, and many *young*,
" before this admirable Invention; which,
" on this very Account, can never be prized
" too highly."

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RHEUMATISMO ACUTO.

FORTASSE parum neceſſarium videbitur de morbo ſcribere, cujus et hiſtoria, et modus medendi in genere tam bene nota ſunt: quoniam autem ipſe ſaepius illius ſaevos paſſus ſim dolores, jure quodam obſervata tradam de hiſtoria pariter ac curatione, quae, ut ſpero, attentione non prorſus indigna habebuntur.

DEFINITIO MORBI.

Clariſſimus Cullenus, nuper defunctus, cujus immenſum ingenium, laborque adſiduus, in praxeos medicae emendatione adhibita, perpetua ſervabuntur memoria, illis praecipue, quibus felicitas contigit, doctrinam ſimul ac voluptatem ex efficaci illius eloquentia, et infinita rerum cognitione hauriendi,—in ſua ſynopſi noſologiae methodicae, hunc morbum in ordine phlegmaſiarum collocatum, ſic definivit.

Morbus, ab externa et plerumque evidente cauſa; Pyrexia, dolor circa articulos, muſculorum tractum ſequens, genua et reliquos majores, potius quam pedum vel manuum articulos infeſtans, calore externo auctus.

HISTORIA MORBI.

In hiſtoria morbi ſcribenda, phaenomena manifeſta et naturalia, ſumma cura annotanda ſunt. Neque enim aut cauſae morbificae, aut indicationes curativae attingendae erunt, niſi ſymptomatis propriis prius cer- et diſtincte perfectis; quorum ne minutiſſima quidem neglegi debent.

Rheumatiſmus antiquis minus perfecte notus fuiſſe videtur. Hiſtoriae ab illis traditae valde imperfectae ſunt, cumque hiſtoriis, ut veriſimile eſt, Podagrae et Catarrhi confuſae. Quare et modus medendi parum idoneus, et ad morbum diuturniorem reddendum aptus.

Primus Botellus catarrhum, ut tum audiebat, inflammatorium diſtinxit, venaeſectionemque laudavit. Ballonius autem, medicus Gallus, qui initio ſaeculi decimi ſexti vixit, primus hunc morbum luculenter deſcripſit, et a Podagra ſejunxit; hic verbo Rheumatiſmi utens, morbum inflammatorium indicavit, et conſilium medendi iniit rationi conſentaneum, venaeſectione, et regimine juſto. Hunc ſecuti ſunt Riverius aliique;

in his imprimis magnus ille Sydenhamus, qui naturam morbi pleni depinxit, ejuſque medelam emendavit et auxit.

Hic Rheumatiſmum in duas ſpecies, Acutum et Chronicum, dividit, ſingulaeque harum ſuam et diverſam medendi rationem rite propoſuit. Mihi de illa praecipue diſſerendum.

Rheumatiſmus acutus borealis caeli incolas maxime adoritur; per magnam Britaniam et Hiberniam bene notus; calidis regionibus perraro viſus. Graſſatur imprimis, autumno et vere, hyeme rarior, continuato gelu; tempeſtati variae, praeſertim pluvioſae, familiariſſimus. Aeſtate interdum adparet, tempeſtate diu mutabili exiſtente.

Uterque ſexus obnoxius; ſequior tamen obſervatur ſaepius eo laborare. Ingruit maxime a tempore pubertatis, ad annum triceſimum quintum, et nonnunquam quadrageſimum, vix vero poſtea. Interdum ſed perraro ante pubertatem viſus. Ipſe duo exempla decennium cognovi, et quidem graviſſima. Omnis corporis habitus in eum proclivis, imprimis vero ſanguineus. Plerumque incipit a ſymptomatis pyrexiae; rigore, languore &c, quae calor, ſitis, inquies, cutis arida &c. pulſus plenus, frequens, et plerumque validus excipiunt.

Cum his quoque interdum Vertigo, et cibi nauſea. Lingua areſcit, et cruſta alba obducitur. Simul dolor indiſtinctus, vel potius ſenſus ingratus, ſaepe adeſt inter humeros, tanquam ſcapulae ad ſe invicem attra-

herentur. Moleſtus quoque ſenſus alterum latus adficit, juxta vertebras lumbares, quem aegrotus frequenter poſiturae corporis ſedentis incommodae tribuit, ſaepiuſque hujus mutatione levamen quaerit, ſed fruſtra. Hos ſenſus plerumque excipiunt poſt unum alterumve diem, interdum autem eadem nocte, dolores diverſarum corporis partium; maxime autem junctu-rarum majorum, talorum, genuum, carporum, cubitorum, humerorum.

Hi dolores nonnunquam, priuſquam ſymptomata pyrexiae apparuerint, aegrotum adoriuntur; tunc vero Rheumatiſmus plerumque minus gravis fit. Dolores ſaepius ingruente nocte incipiunt; alternaque vi, curſum muſculorum ſequentes, varias juncturas afficiunt; nimirum tali et genu, carpi et cubiti. At non raro ſingula junctura caeteris plus patitur. Aegrotus valde irrequietus, ſemper poſituram artus affecti mutare geſtit; metuit vero doloris maximum augmen, vel minimo motu induci ſolitum. Dolore perſeverante, tumor non parvus, nec ſine rubore, juncturas affectas circumdat; tunc vero aeger paululum levatur; et verſus Auroram ſomnum capit citra requiem, dolore ſaepe interpellatum. Hic enim, licet minus quam ante, torquens, tamen interdum pergravis. Luce veniente, dolores adhuc moderatiores fiunt; ut aeger ſperare incipiat, vim morbi jamjam tranſiſſe. Sed die veſperaſcente, modo crudeli ſpe ſua exuitur; dolor ſenſim et alias juncturas occupat, miſerique cruciatus, ſi fieri licet,

geminantur. Quae partes priore nocte doluerant, licet nunc doloris expertes ſint, quamdiu immotae reſtent, tamen vel minima ſitus mutatione, aegrum miſere torquent, propter immenſam ſuam irritabilitatem. Circa tempus uſitatum, mane remiſſio fit, cum intervallis manens uſque ad ſolitam veſpere exacerbationem; tum vero dolores, vel alias juncturas, vel illas quae initio afficiebantur, occupant. Et ſic crudelis morbus interdum tanta celeritate et vi augetur, ut miſer, horrendis cruciatibus laceratus, graviſſimos ploratus edat, mortem enixe exoptans, quam rerum deſperatarum unicum ſolamen credit. Tandem fere omnes extremorum cum ſuperiorum, tum inferiorum junturae, ita afficiuntur, ut ne caput quidem ex pulvinari tollere queat, ad ſitum immenſam reſtinguendam. Infantis inſtar, a manu miniſtri et potus et cibus aegroto ingerendus. Stratorum pondus intolerabile; quare neceſſe fit, ut variis artificiis impediantur, quo minus artus dolentes premant; et oportet artus pulvinaribus mollibus ſuffulcire; ut ea ratione, quoties aegro lubet, moveri a ſervis poſſint. Quamvis adhuc omnibus autoribus ſententia fuit, quam et Cullenus in Definitione curate memorat, dolores externo calore augeri, tamen de illa multum dubito. Quin potius credo, calorem rite applicatum perutilem eſſe, et dolores ſummopere levare. Doloris augmen equidem linteorum ponderi et maxime poſiturae corporis reſtrictae tribuo.

Nam et in ſanitate, ſi cujus artus diutius unum eundemque ſitum ſervarint, muſculi, quotquot agunt, fatigantur, et ſenſus ab hac re oriundus ſenſim peringratus fit. Quare cum in lecto ſumus, et ſomno ſopiti, natura dirigente verſamus nos huc illuc, muſculos diverſos alternatim contrahentes et laxantes; quae res quieti et corporis refectioni multum favet; alias enim maxima noctis pars irrequieta foret.

Irrequies neceſſario inter caetera dolorem ſequitur; nam quum mens ſenſum ingratum rejicere ſtudeat, levamen quaerit per ſitus mutationem.

Aegrotus interdum e lecto ferri optat, ſublevationis gratia, ſed ipſius motus vel ſola cogitatio terrore eum implet. Poſtulat haec res multos adjutores, a quibus in laneis tegminibus ſumma cura portetur, ſitu horizontali, vel minimum motum graviorem caventibus, a quo, dolore non tolerando afficeretur. Haec ſitus mutatio ad tempus levamini eſt. Sed ſumma cura opus eſt, ne aer frigidus ulli corporis parti admoveatur, qui certo certius dolores auget. Aegrotus extra lectum poſitus aliquantum refectus videtur, ut levamen breve accipit; quod tamen mox taedium ſequitur, et cupido in lectum revertendi, qui, quod recenter ſtratus eſt, per breve ſpatium pergratus videtur. Atque ſic hic morbus tam ſaevus varia vehementia continuatur per plures dies, imo nonnunquam ſeptimanas. Interdum muſculi intercoſtales afficiuntur cum magno inter

inſpirandum dolore in latere, pleuritico non abſimili.— Alias, muſculi occipitales et cervicales afficiebantur, cum ſumma aegroti moleſtia. Sed hi dolores, ut qui juncturas afficiunt, paucis horis mitigantur.

Hic morbus nonnunquam per metaſtaſin internas occupat partes. Quam rem et Clariſſimus Gregory in clinicis praelectionibus memorat, et Clar. Home in clinicis experimentis, exemplis quibuſdam firmat. D. Macbride quoque loquitur de tali metaſtaſi alternis vicibus inteſtina torminibus crudelibus et vehementi diarrhoea, carnoſas vero corporis partes acutis doloribus afficiente; ventre tranquillo, artus doloribus cruciantur; his autem recedentibus, redeunt tormina et profluvium. Qua ratione aegrotus per plures ſeptimanas torquetur et hauritur.

Ipſe exemplum memorabile hujus generis vidi, quod in fine diſſertationis hujus narrabo.

Duratio Rheumatiſmi Acuti, ut antea dictum fuit, incerta eſt, nec plerumque tanta vi ſaevit. Sed in morbi decurſu, utriuſque lateris junctura ordine afficiuntur, ſaepe iteratis vicibus, donec morbus paulatim recedit, aegroto debiliſſimo manente. Sub initium urina rubra, poſt paucos dies magnam vim materiae lateritiae deponit. Quod tamen non ſine intermiſſione fit; nam inter exacerbationes rurſus ſine ſedimento rubet; Urina, ut videtur, cum remiſſionibus et exacerbationibus alternans. Alvus fere ſemper per totum morbum adſtricta, quod ſymptoma aegrotus augere videtur,

ne dejectionibus ejuſmodi moleſtiam capiat. Sudoris aliquid, maxime noctu, ab initio morbi, ſed in parte corporis tantum, et ut videtur a doloris exceſſu, et citra levamen.

Mens per totum morbum ſaniſſima, et animus haud demiſſus per remiſſiones. Tuſſis moleſta interdum urget, et aegrum miſere torquet. Dolorem, ruborem et tumorem tegumentorum circa affectas juncturas ſequitur diſpoſitio aliqua ad ſudorem, ſub finem morbi augere viſa; quae evacuatio, ſi magna fuerit, evidenti eſt auxilio.

DIAGNOSIS.

Juſta et adcurata morbi ab aliis diſtinctio, qui multis ſimiles putandi, tamen examine magis exquiſito in diverſa, ſymptomata facto, valde diverſi inveniantur, tum quoad cauſas, tum effectus et medendi rationem, medicinam facienti maxime neceſſaria eſt. Sine hac, incerto pede gradietur, et ſaepius in errores periculoſiſſimos incidet. Non tamen difficile eſt hujus morbi diſcrimen.

Nam ſoli hi morbi, Podagra, Syphilis et Scorbutus eum referunt. A podagra diſtinguitur, quod homines vegetos occupat, quod evidenter a frigore oritur, quod maxime magnas afficit juncturas, quod ſaepe ab una ad alteram juncturam movetur, quod muſculorum ſi-

tum ſequitur, quod ſaepius foeminas invadit, denique, quod generali diatheſi phlogiſtica ſtipatur. Contra, podagra raro ante triceſſimum quintum annum oritur, plerumque adhuc ſerius, hos praecipue afficiens, qui pigri ſunt et luxurioſi, raro mulieres. Occupat imprimis juncturas exiguas, pedum praecipue morbus. Hereditarius eſt, et aegrotus per intervalla eidem eſt obnoxius. Rheumatiſmus quidem interdum hereditarius ſed rariſſime, et redire ſolitus, ſed ob frigus. In podagra quoque morbus fere localis eſt, ſyſtemate parum turbato, praecedente ſaepe aciditate ventriculi cum languore, torpore cruris et femoris, venis cruris pleniſſimis. Die ante paroxyſmum appetitus eſt ingens, et lachrymae oculos complent, aegrotuſque iracundiae et aegritudini obnoxius. Denique paroxyſmus incipit poſt mediam noctem, et omnium primum pedis pollicem occupat. Quibus rebus conſideratis, diſcrimen podagram inter et rheumatiſmum facile patebit.

A Syphilitide facile diſtinguitur: nam in hac dolores profundiores et in centro oſſium artuum poſiti ſunt. Oſſa cranii ſaepe afficiuntur; et plerumque nodis et exoſtoſi ſtipatur. Dolor tactu non augetur, porro et hoc diſtinguitur, quod aeger antea lue venerea laboraverit. Rheumatiſmus non oſſa ſed ligamenta et aponeuroſes juncturarum tendineas afficit. Scorbutus nunquam non lividis maculis in multis corporis parti-

bus ſtipatur, ut et gingivis ſpongioſis, preſſione minima ſanguinem effundentibus, magna debilitate, frequenti haemorrhagia, &c. quae omnia in Rheumatiſmo nunquam apparent. Rheumatiſmus acutus, niſi ſumma cura adhibita, in chronicum abit, ſed hae ſpecies facile a medico conſiderante diſtinguentur. In chronico nulla pyrexia, ſaltem non multum, nullus rubor, tumor vix ullus; dolores paucas juncturas occupant, non ſolent locum mutare; artus plerumque frigent, et dolores ſemper calore levantur; pulſus mollis, debilis. Caeterae affectiones locales rheumaticae, ut Lumbago, Sciatica &c, facile a morbo de quo ſcribo diſtinguuntur.

CAUSAE REMOTAE.

Hae recte in praediſponentes dividuntur et excitantes.

Cauſa prediſponens illa peculiaris forma eſt, ille corporis habitus, illa propria conſtitutio, quae huic morbo praecipue obnoxia eſt. Temperamentum ſanguineum, a D. Gregory ita deſcriptum; (conſtitutione corporis pleniore; compagine molliore, cute delicata, tenui, molli, calida, venis magnis, conſpicuis, caeruleis &c.) in hunc morbum maxime proclive; Diatheſis phlogiſtica, vel tonus ſyſtematis arterioſi auctus, incolae caeli ſeptentrionalis; diaeta plena et lauta; exercitii parum; evacuationum ſolitarum diminutio aut

ſuppreſſio; venarum ſectiones ſolitae neglectae; perſpiratio minuta vel ſuppreſſa; diarrhoea periodica, haemorrhoides vel menſes repreſſi &c; quae cauſa ultima forſan praecipua eſt, cur tam ſaepe mulieres hoc morbo laborant. Qui ante rheumatiſmum paſſi ſunt, hujus reditui obnoxii ſunt, quamdiu plethora arterioſa manet, nam conſuetudinum ſyſtematis relinquit; quare quoque qui Opthalmia, Cynanche tonſillari, Catarrho, &c. affecti fuerint, his morbis poſtea obnoxii eſſe obſervantur. Nonnulli putarunt, evacuationes excedentes corpus huic morbo opportunum reddidiſſe, ob auctam irritabilitatem; ego vero nulla ratione concipere poſſum, quomodo diatheſis phlogiſtica, quae hujus morbi cauſa praedisponens maxime neceſſaria eſt, ullum nexum poſſit habere cum illa debilitate, quam evacuationes immodicae gignunt.

Cum hac prediſpoſitione neceſſe eſt ut jungantur cauſae excitantes, quarum frequentiſſimum frigus eſt, maxime cum humiditate conjunctum. Hinc morbus inducitur tempeſtate varia, veſtibus madidis, in quibus mortalis per aliquod tempus ſederit; expoſitione ad ſubitum frigus, poſt vehemens exercitium; ſi quis calido cubiculo ſedens, corpus calefactum frigidi aeris motui dederit, praeſertim dorſum lumboſque; domiciliis humidis, recenter conditis, et eruptionibus cutaneis retroceſſis.

CAUSA PROXIMA.

In variis morbis conſiderandis, nil forſan tam arduum eſt inventu et deſcriptu, ac cauſa eorum proxima.

De hac re multas opiniones defenderunt ſcriptores medici.

Diu ſententia valuit de lentore ſive tenacitate ſanguinis, tanquam cauſa proxima Rheumatiſmi. Alii propriam ſanguinis acrimoniam finxerunt.

Cullenus illuſtriſſimus, qui nuper obiit, has opiniones perfecte refutavit, poſuitque multa quidem ſatis arridentia de eadem re. Aſſerit cauſam rheumatiſmi eandem eſſe, ac inflammationis a ſtimulo directo non pendentis; frigus applicatum vaſa juncturarum praeſertim afficere, quippe quae, membrana celluloſa minus quam partes artes inter juncturas ſitae, tecta ſint; frigus porro extrema vaſa conſtringere, ſimulque in curſu eorum auctum tonum ſive diatheſin phlogiſticam gignere; unde auctus ſanguinis impetus et hujus tranſitui libero reſiſtentia oriantur, ideoque inflammatio et dolor; quibus addenda affectio quaedam ſingularis fibrarum muſcularium, quae videntur quodammodo rigere, et motus minus facile ſuſcipere, et inter hos dolore affici. Eadem affectio dolores ab una ad aliam juncturam propagare videtur, qui dolores gravius ſentiuntur in illis extremis vaſis, quae in juncturis ter-

minantur; quod oſcillationes ultra haec non propagentur.

Ut rem igitur finiam, cauſa proxima inflammatio videtur eſſe membranarum et aponeuroſeon, interdum et ligamentorum, quae etſi in ſtatu naturali parum ſenſibilitatis habeant, tamen inflammata, acute ſentiunt et graviſſimos dolores gignunt.

PROGNOSIS.

Licet hic morbus jure omnium phlegmaſiarum maximo dolore ſtipari credatur, tamen vix unquam lethalis eſt; ne dicam nunquam, qua verus rheumatiſmus acutus. Saepe autem cum morbis epidemicis junctus viſus eſt. Magnus Sydenhamus aſſerit varios morbos graſſantis epidemici naturae participes eſſe, et Clarus Gregorius nonnullos annis 1781 et 1782 lethales rheumatiſmos ita explicat, ut cum febre typho contagioſa tunc ſaeviente junctos credat. Veriſimile autem eſt typhum non rheumatiſmum mortem peperiſſe. Male curatus, aut in iis quos ſaepe ante adortus eſt, frequenter terminatur chronico rheumatiſmo pervicaci, quem ſaepe ſequuntur paralyſis, anchyloſis, et rigiditas non vincenda artuum affectorum.

Per metaſtaſin cerebrum, pulmones, aliave viſcera afficiens, peſſimus eſt. Sunt qui hoc negant fieri, aſ-

ſerentes tales affectiones a podagra, non a materia morbifica rheumatiſmi metaſtaſi mobili oriri.

Fortaſſe autem his facultas nunquam fuit tale exemplum videndi, nam rariora ſunt; quare in talem ſententiam abierunt. Natura et medela faelix exempli, in fine hujus libelli narrati, talem metaſtaſin revera fieri poſſe, his probabunt. Rheumatiſmus acutus ſemper fere reſolutione, vel exudatione terminatur: exempla ſuppurationis ſunt rariſſima, quum morbus maxime aponeuroſes tendineas afficit et ligamenta, ſuppurationi non obnoxia. Quamvis obſervarim in hoc morbo materiam gelatinoſam effundi; tamen patet hanc citiſſime aut abſorberi aut exſudari, quum tumores circa juncturas ſemper recedant. D. Storck exempla quaedam ſuppurationis memorat, in ulcera mali moris et perdifficilia ſanatu abeuntia. Non eſt quod credamus morbum unquam per gangraenam terminatum eſſe, aut per ſcirrhum. Saepiſſime idem morbus bene terminatur citraque ullos effectus malos, (niſi quod aeger facilius in poſterum eodem corripiatur) in hunc morem. Si conſtitutione bona fuerit, ſi morbis praeteritis non laeſus, ſi pyrexiae ſymptomata minus violenta, ſi veſpertinae exacerbationes minuantur, ſi ſomnus aegrum reficiat, et excretio per cutem generalis fiat et copioſa, et ſatis diuturna; ſi urina per integrum diem noctemque magnam copiam ſedimenti lateritii depoſuerit; ſi haemorrhagia vel diarrhaea pyrexiam minuerit; tunc finis morbi felix mox ſperandus.

MODUS MEDENDI.

Quum hic morbus evidenter conſtet affectione inflammatoria aponeuroſeon tendinearum et ligamentorum circa juncturas poſitorum, quam ingens diatheſis phlogiſtica comitatur; haec diatheſis tollatur neceſſe eſt.

Res maximi momenti hic loci conſideranda, diaeta aegroti eſt, quippe ſine qua, caetera medici auxilia nil profutura ſint. Quare quam curatiſſime potero hanc deſcribam.

REGIMEN.

Maxime neceſſe erit, ut aeger ab omni cibo animali abſtineat; nec permittantur leviſſima juſcula.

Etiam Butyrum, licet minima copia, pani toſto illitum, ſymptomata aſperavit. Quamvis ipſe aegrotus raro vel minimam cupidinem ſolidi cibi habeat, tamen cognati ejus, putantes eum dolore debilem reddi, vexare eum ſolent, varios cibos delicatiores miniſtrantes, ut dulciaria, appetitum creandi gratia. Quod ut evitemus, neceſſe erit monere eos, quam mali ſequi ſoleant effectus.

A vino, cardiacis, potu fermentato omnigeno ſedulo abſtinendum, etiam horum minima copia, eaque

dilutiſſima, Uno verbo, tota diaeta lacte et frugibus abſolvatur, quae ſatis variari poſſunt, ad taedium et nauſeam fugandum. Varia farinacea varietates praebent pergratas et cibi et potus; ut decoctum hordei, avenae tenuiſſimum, panada, aqua cum pane toſto; quod Angli vocant *flummery*; fructus conditi, ut robus ribeſiorum; poma cocta; liquor vulgo vocatus *Lemonade*, lac amygdalinum; quae et ſimilia feliciter uſurpari poſſunt. Sed potus omnium jucundiſſimus, et qui aegroto minime nauſeam creat, praeparatur e lacte vaccino, cocto, cujus ſerum, ope lactis ſeroſi, ſeparatum fuerit; vulgo vocatum *two milk whey;* et in Hibernia plerumque adhibetur pro potu ordinario in omnibus pyrexiis. Hunc potum ego fere ſemper aegrotis tam jucundum inveni, ut per diuturnum morbum, alium praebendi nulla anſa eſſet. Sitim extinguit perfecte, ventriculo pergratus eſt, et plerumque leniter alvum ducit; unde ejus uſus bonus erit ad diatheſin phlogiſticam fugandam. Multa exempla exſtant, in quibus infimae plebis Hiberni perfectam ſalutem recuperarunt, ſolo uſu hujus ſeri cum panis pauxillo ex tritico bene toſto.

Sydenhamus hanc diaetam egregie laudat.

Ab initio hujus morbi, aegri lecto committendi, nec ab eo removendi, niſi decubitu defeſſi; tum enim tollantur, dum recenter ſternatur. Per breve ſpatium tantum extra lectum ſint; et ſumma adhibeatur cura,

ne frigore rurſus icti, in eundem morbum recidant. Jam autem caetera, contra diatheſin hancce, remedia conſideremus, quorum princeps eſt.

VENAESECTIO.

Quae in nullo alio morbo tam certum auxilium eſt. Sydenhamus, qui omnium primus, hujus morbi, ut videtur, tractationem plene conſideravit, juſſit venaeſectiones fieri ſtatutis, ſingulorum, binorum, ternorumve dierum ſpatiis, ad quartam uſque vicem, ultra quam nunquam neceſſe erit progredi, niſi aegrotus calidiore regimine uſus fuerit. Pringle, cujus obſervationes medicae ſummam ſibi attentionem vindicant, longius adhuc progreditur. Ne mihi vitio vertatur, ſi ipſiſſima proferam verba.

" If the Rheumatiſm was attended with acute pains, " or ſwelling of the joints, the cure was chiefly to be " obtained by repeated and almoſt daily bleedings, " till the feveriſh heat and the pain were entirely re- " moved, or made much eaſier.

" In this courſe we may proceed the more ſafefly, " as thoſe who are ſubject to this kind of Rheumatiſm, " are generally in the full vigour of life, and are ei- " ther plethoric, or able to bear ſuch evacutions; add, " that frequent bleedings weaken the body leſs per- " haps in this diſeaſe than in any other."

Licet tanti viri ſententiam, ut par eſt, ſuſpiciam, obſervandum tamen eſt, tam frequentes venaeſectiones nequaquam poſtulari; quae, e contrario, mala vix tollenda in ſyſtemate procrearunt. Credendum quidem milites, quippe qui maxime e robuſtiſſimis et valde vegetis hominibus conſtent, quorum vigor ſemper ſervatur quotidiano exercitio; vitaque dura, quum omnibus exponantur tempeſtatibus;—quam alii homines has evacuationes melius perlaturos. In vita tamen civili talis praxis minime idonea. His profluviis ſaepe iteratis, tanta ſaepe aegrotorum debilitas orta eſt; ut contraria tractandi ratio prorſus poſtularetur; datis meracioribus vinis ad periculum praeſentiſſimum propulſandum.

Alias quoque morbus degeneravit in invictum rheumatiſmum chronicum, cum convaleſcentia tardiſſima; inſuper Hydrops ſecutus eſt, ſalute, in quibuſdam exemplis, nunquam redeunte. Dum autem ſic commonſtrem, quam ſint ineptae et periculi plenae, venaeſectiones toties repetitae; obſervare debeo, venaeſectionem intra certos limites praeſtantiſſimum eſſe auxilium, et plerumque prorſus neceſſarium. In initio morbi, duodecim vel viginti unciae ſanguinis, ex orificio magno, mittantur, ſecundum aegri conſtitutionem et magnitudinem morbi.

Sanguis miſſus ſemper tunicae coriaceae habet, plus minuſve, eaeque pleuriticae perſimilis. Quod phae-

nomenon medicos saepe in errorem ducit, non in hoc morbo tantum, sed et in aliis; quippe qui venaesectiones eousque continuent, donec haec crusta dispareat. Haec praxis quam sit incerta vix est qui ignoret; nec mei propositi est illius phaenomeni minutiorem dare explicationem. Si, post sanguinem missum, generalis diathesis minuta videatur; si calor et sitis minus urgeant; si magnum doloris levamen percipiatur; non erit quod plus sanguinis detrahamus. Sin vero nulla vel parva tantum mutatio sit, altera venaesectio fiat die insequente primae aequalis. Exempla perraro erunt, in quibus ulterius progrediendum; singula venaesectio ut plurimum sufficiet, si tractatio in genere rite fuerit instituta. Non abs re erit hic annotasse, in hoc morbo, ut in caeteris phlegmasiis, singulam venaesectionem largiorem, subita systematis inanitione facta, plus prodesse quam plures parciores. Dolore pervicaciter in uno loco saeviente, utilis erit venaesectio topica, adhibitis hirudinibus, generali praegressa. Venimus nunc ad

EMETICA.

Quum in morbi initio saepe nausea et vomituritio adsit, ideo post venaesectionem Emeticum utile inventum fuit.

Emetica antimonialia hic anteferenda videntur

quum duplex propoſitum exſequantur, data parvis doſibus et brevibus intervallis; non enim ſolum ventriculum purgant, ſed et ſolent inteſtinorum contenta eliminare leniter; qua ratione uſus praecavetur.

CATHARTICORUM.

Quae in hoc morbo minime ſunt idonea, propter magnam moleſtiam et aegritudinem, quam aegris ſolent faceſſere; cujus dolor immenſus, ſi vel minime turbatus fuerit; rite conſiderandus. Quod ſi durante morbo, alvus adſtrictior fuerit, tollendum hoc per clyſma emolliens quotidie adhibitum, vel laxantibus mitiſſimis, ut chryſtallis tartari, manna, tamarindis, ſale polychreſto, rupellenſi, &c. quae dentur parvis doſibus, et juſtis intervallis repetantur, donec alvus reſpondat. Sic enim data optimos edent effectus, et viribus ſuis refrigeratoriis, ſymptomata generaliora multum diminuent.

Poſt has evacuationes multi egregii ſcriptores uſum nitri concelebrarunt, magnis doſibus et bene diluti, 2da. 3tiave quaque hora. Datum fuit ad drachmas decem, viginti quatuor horarum ſpatio. Aegroti, quibus haec methodus tractandi maxime profuit, robuſtiores fuerunt, et a noſocomiis caſtrenſibus collecti; ſaepe autem ventriculum nauſea afficere invenitur. Acida, quidem, ut aceti copia parva, puta hujus coch-

leare parvum, vel syrupus succi Limonum, ingratum illum sensum praecavebunt. Nitrum, sic datum, interdum diureticum, interdum sudorificum est; quocunque tamen modo operatur, non tantum prodest in genere, ut nupera monstrarunt observata, quantum alii fecerunt ut expectemus. Symptomata quidem saepe mitigantur, at plerumque non diu, redeunt dolores vespertino tempore, uti solent, aeque violenti ac antea. Adde quod medela, sic instituta, longior fere semper fuit. Nil quidem tam desideratur in hoc morbo, quam ea praxis quae et symptomatum violentiam levet, simulque citam et efficacem praebeat sanationem. Mihi saepe facultas fuit hujus morbi decursum observandi, et in varias tractandi methodos animum sedulo advertere.

Mea enim intererat, ut hoc facerem, quippe qui iteratis vicibus morbi gravissimis symptomatis vexatus fuerim.

Inter varia praxeos genera quae vidi, multum me movit efficax preparati cujusdam ex antimonio exhibitio: hoc preparatum licet apud Gallos magni estimetur, apud nos negligitur et vix in praxin sumitur: de quo dico, Kermes minerale est, Hoc remedium medici Corcagienses principes saepe praescribunt, non in acuto tantum rheumatismo, sed et post venarum sectiones in Pneumonia, et feliciter quidem. Hujus urbis Pharmacopolae, Kermes, ut et Tartarum emeti-

cum ex Pariſiis invehunt; quum experientia docuerit, utriuſque doſes facilius ſtatui, minoreſque quantitates eundem affectum gignere, ac praeparatorum ex antimonio Londini factorum.

Poſt largam ſanguinis miſſionem, datur Kermes quadrans grani cum pauxillo ſacchari albi triti, in vaſculo ſeri; quod poſt duas horas iteratur. Si lenis nauſea non ſentiatur, vel dejectio laxa fiat, augetur copia ad trientem grani, poſt ad ſemigranum, et ſic porro, donec nauſea levis promoveatur.

Eadem copia, ſecunda quaque hora, Kermes repetitur, uſque ad horam vigeſimam quartam, vel quadrageſimam octavam, interpoſito ſaepe potu ſeroſo tepido. Quodſi Kermes vomitum vel dejectionem nimiam ciet, per quatuor ſexve horas omittitur, poſtea copia minori, ſolitis periodis repetendum.

Plerumque poſt doſin ſecundam tertiamve hujus pulveris, conſtrictio cutis tollitur, et lenis ſit Diaphoreſis, generalis mox futura. Interim lecti lintea ſubmoventur; aeger induſio laneo induitur; caeterum ſtrata lecti levia ſunt.

Eadem Diaphoreſis manet, non multum aucta, per viginti quatuor horas, vel etiam duos dies; quo tempore aeger magnum levamen percipit. Pergitur in uſu pulveris, ſed majoribus intervallis, puta quatuor ſexve horarum, aegroto, adhuc ſerum, vel alium potum leviorem ſimilem quoties lubet, bibente. Hac ratione

morbus paulatim decreſcere videtur; pulſus ſit latus et mollis, et minus frequens. Urina deponit ſedimentum lateritium ſatis largum; dolores redeunt minore violentia, et minus diuturni, et in multis exemplis paucis diebus ex toto diſcedunt. In conſtitutionibus robuſtis, altera venaeſectio ſaepe poſtulabitur, dum haec fiant, quae ſic efficaciora erunt. At licet ita generalis Diatheſis ſublata fuerit, tamen nonnunquam manet aliqua praeter ſolitum irritabilitas, in partibus antea affectis et reditus doloris et tumoris, licet multum imminutorum, tamen moleſtus eſt. Tunc laudatum nomine Doveri pulveris compoſitum, ſi rite detur, vix non ſemper felicem eventum gignit. Optime dari videtur ad ſcrupuli doſin, octava quaque hora repetendum. Debet aeger ab omni potu aliquamdiu abſtinere, poſt unamquamque doſin, ne nauſeam creet. Hoc remedium largum ſudorem eliciet, quam minimo calore dirigendum; ſed pedes ſemper bene tegantur.

Sudor continuetur uſque ad 48vam horam, ſi aeger eum bene ſuſtinere videtur; plerumque tamen viginti quatuor, trigintave horae ſufficient. Maxima opus erit cura, ne per aliquid tempus in poſterum aeger frigido aere ſtringatur; illique perjucundum erit induſium laneum et ſtrata lanea mutaſſe. Quae autem ſufficiuntur, debent bene igne ſiccari.

Quod ſi dum ſudor provocetur, aegri vires deficere videantur, ſubinde detur pauxillum vini. Per totum

hujus tractationis decurſum, ſi alvus adſtricta ſit, quod plerumque fit, poſtulabitur Enema emolliens, vigeſima quarta quaque hora, quod perutile erit, et multum tribuet ad morbum tollendum.

Nullus haeſito dicere hanc methodum plerumque felicem habituram eventum. Pro me ſaltem dicam, me iterata vice per ſex ſeptimanas duaſve menſes cubiculo fuiſſe detentum, tamen noviſſime hoc morbo afflictum, poſt ſeptem dies foras ambulaſſe, ſumto kerme ut ſupra dictum fuit. Nec aliud ſymptoma reſtabat, praeter aliquam debilitatem, qua mox liberabar.

Quaecunque medici cura et attentio ſint, magnam diſpoſitionem habet morbus in quibuſdam conſtitutionibus in chronicum ſtatum abeundi. Hujus libelli limites plenam illius expoſitionem recuſant, tamen pauca verba jure dicenda erunt de modis quibus, ne degeneret, praecaveatur; unde inducor quoque, ut multa applicata in hoc modo uſurpari ſolita leviter attingam. Multa externe applicata ſunt, ut partes in hoc morbo affectae leventur, qualia ſunt fomenta, linimentum volatile, oleum camphoratum &c. Sed in Rheumatiſmo acuto, licet dolores aliquantiſper levare videantur, tamen fere certo metaſtaſin morbi efficiunt ad partes alias, forſan aucto periculo. Veſicatoria adhibita ſunt, raro cum felici eventu, niſi ubi dolores pervicaciter unum locum occupaverant.

Poſt idoneas evacuationes forſan balneum calidum

prodeſſet; hoc autem utendi locus non datur, propter ingentem aegri dolorem, quem crearet. Pediluvia ſaepe tentata fuere; ſed aut nullo effectu, aut peſſimo, aſperatis ſymptomatis.

Panni lanei recentis junĉturis affectis applicationem ſemper perutilem inveni. Hic, ſi adhibeatur, per totum morbum retinendus erit, et unaquaque junĉtura ſemel affecta, hoc tecta manet, donec aeger ſalutem recuperarit. Dolorem minuit, largam humoris excretionem excitat a ſuperficie partis; quae excretio videtur mali terminatio naturalis eſſe.

Lana paulatim humore impleta recenti ſubinde mutetur, et quidem citiſſime, ne admiſſus aer ingentem dolorem pariat. Reperi laneam antea admotam, licet lota fuerit et optime ſiccata, rurſus applicatam dolorem non ut initio levare, ſed nova opus eſſe. Ut eventum ſcirem, pannos bene lotos ſulphureis vaporibus implevi, magnoque gaudio ſenſi, illos novis non eſſe poſthabendos; cujus et pauperibus et noſocomiis utilis cognitio videtur. Haec methodus ſanationem promovere videtur, continuam excretionem e cute partis affectae ciendo. Quare acrimonia illa peculiaris, quae, ſi ita dicere fas ſit, in ſyſtemate latet, minuitur; ſaltem inflammatio decreſcit et dolores multum levantur. Haec è cute excretio, initio larga, ſenſim minuitur; ita ut poſtremo nil praeter mollitiem

nitidam appareat, quo tempore morbus pene deſiit.

Sub finem, magnum propoſitum hoc eſt, cavere ne morbus chronicus fiat; in quem finem quam citiſſime conſtitutio roboretur. Sequitur corticem peruvianum, tonicorum facile principem, indicari; ex quo omnia ſuadent utilitatem expectare, praeſertim quum in hoc ſtadio morbus ſaepe intermiſſiones habeat, ita ut dolores quoſdam, una alterave junctura ſecundo quovis die ſentiat. Licet autem cortex interdum bonos effectus prodat, tamen ſaepe ſecus eſt, doloribus potius auctis. Hic gummi guiacinum plerumque prodeſt; quod optime exhibetur in doſibus ſcrupuli ad ſemidrachmam, cum mucilagine gummi arabici tritum, et in hauſtum, cum pauxillo aquae cinnamomi tenuis et ſyrupo, compoſitum. Cum alvus ſaepe deficiat, hoc remedium, hora ſomni datum, plerumque ſedem laxam praebet, vel interdum duas, craſtino mane.

Per tres, quatuor pluresve noctes ordine repetitur ſimili effectu, quo reliquae morbi ſaepe fugantur. Interim cito appetitus redit, et tunc levis diaeta nutriens, cum pauxillo vini permittitur. Aeger bene tegitur, et extra lectum retinetur quantum fieri poteſt. Debet etiam levi exercitio uti, in cubiculo, ope ſervi. Utatur hoc exercitio interjectis intervallis, quam ſaepiſſime poteſt, ſubinde ſeſe lecto ad requiem committens. Paucis diebus ſatis bene graditur, appetitus augetur, et cito robur acquirit. Artuum frictiones, et ſtrigilis

uſus, quamprimum hos perferre poterit, admodum utiles erunt. Simul ac tempeſtas faverit, foras vehatur; et quamprimum equo ſedere potuerit, iſto exercitio utatur, quod perutile invenitur. Tempeſtate favente, frigidum balneum, mane quovis admotum, ſalutem priſtinam reddet.

Quod ſequitur, exemplum memorabile rheumatiſmi acuti, ſpero medicis non ingratum fore.

Foemina, viginti quinque circiter annos nata, quae ſemper ſana et prae caeteris hilaris fuerat, menſe Octobris, anno 1779 infantem enixa eſt. Paucis ſeptimanis poſt, perfecta, ut videbatur, ſalute fruens, millia quaedam paſſuum equo vecta eſt; poſtea vero magnum torporem extremorum inferiorum, cum doloribus torquentibus circa genua, conqueſta eſt. Pedes et crura aqua tepida ſubmergebantur, cui pauxillum aceti additum fuit, horaque ſomni ſerum lactis tepidum propinabatur. Hac ratione extremis levatis, brevi poſt abdomen dolores ſaevi corripiebant; contra quos fomentis utebatur, et miſtura aperiente. Sequebantur liquidae ſedes quaedam, mitigatis abdominis torminibus. Inſequente veſpere variae extremorum junĉturae dolore, rubore, tumore afficiebantur, quae mane minuebantur, et die ſequente abdomen iterum doloribus occupabatur. Contra haec mala, varia medicamina praecepta ſunt, quibus mitigata quidem ſunt,

ita tamen ut redirent ſemper. Aliquanto poſt invaſit Diarrhaea, dolorum abdominalium comes. Diverſis temporibus, emetica, opiata magnis doſibus, antimonialia variis formis, Cortex peruvianus, gummi guiacinum, enemata anodyna et mucilaginoſa, fomenta, et quaecunque alia remedia vel minimam auxilii ſpem ſuggerebant, data ſunt, citra effectum permanentem.

Quamvis omnia tentarentur, pejus ſe habuit, juncturae cum inferiorum tum ſuperiorum extremorum alternatim afficiebantur; his doloribus, ſemper cum torminibus et diarrhaea vicem mutantibus.

Diarrhaea in Dyſenteriam degenerare viſa; dejectionibus mucoſis, ſanguineis, et faetidiſſimis factis. Hoc miſero ſtatu, circa octo ſeptimanas erat; cognati et amici de ſalute ejus deſperabant, morte quavis hora expectata. Sed amicus intimus cum meus, tum et ejus, me, ut eam viſerem, orabat. Viſi, licet invitus, nulla ſpe auxilii ſuperſtite. Examinanti mihi, carpi cernebantur tumore, rubore et dolore ingentibus affecti; itidem genua; vox tam debilis, ut vix audiri poſſet; quaſi frequenti gemitu conſumpta eſſet; corpus macrum, licet minus ac quis crederet; lingua alba; magna ſitis, et urina coloratiſſima; diarrhaea ex paucis horis abſens. Pulſus parvus, frequens, ſed duriſſimus, cum totius corporis ſuperficiei ardore urente. Ex quibus ſymptomatis morbum rheumatiſmum

acutum judicavi. Venaesectionem proposui; et amicis ejus consentientibus, circa unciae octo sanguinis detractae sunt, densa crusta coriacea tecti. Levabatur fere statim et post duas circiter horas locuta est non sine hilaritate; pulsus mollior fiebat; conquesta vero est nauseam et malum oris saporem. Praebui tartari emetici Parisiensis quadrantem grani, quod paucis minutis operatum est, ejecta magna copia bilis viridissimi coloris, et odoris foetidi. Postea levata, in somnum profundum incidit per aliquot horas, a quo refecta et expergefacta melius se habere coepit. Die sequente pulsus mollis, latus et multo minus frequens, sitis valde imminuta; temperamentum cutis aequius, perspiratio liberior; urina largum sedimentum deposuit, diarrhaea modica, nulla tormina. Vespere quaedam junctura affectae, sed levius.

Potus constans serum lactis erat, sumebatque serup. nitri purif: 2da quaque hora; nocte, magna diaphoresis secuta est, quae die postero continuavit; inter quam largiter hausit serum, (nam nitrum propter ventriculi nausea ~~mm~~ amovebatur) pulsus naturalis sed debilis, lingua nitida, sitis nulla, diarrhaea fugata; et urina sine intermissione sedimentum lateritium deponebat; appetitu cibi gaudebat; accepit levem Panada, et cort. peruv. semidrach. 3tia quaque hora. Sic perexit per aliquot dies, doloribus noctu interdum urgentibus;

corticem ſumere noluit. Praebui gummi guiacini ſemidrachmam cum mucil gum. Arab. triti, forma hauſtus, hora ſomni ſumendi.

Nox placidior, unica tantum liquida ſedes poſt hauſtum, qui ſine intermiſſione per quindecim noctes repetitus, poſtea foeminam perfecte ſanam reddidit. Ex quo tempore ſalutem retinens multos liberos peperit.

FINIS.